

Fig. 1a
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A2115+_neime	9 SFHGSTLVKTADG (0)	YKAIHQAGDRVFAKDETSKG (27)	NNQTLISNKIHPFYS (3)	WIQAGRLKKGDTLLS (0)
ESGAKQTVQNITLK	(4) KAYNLTVADWHTYFV (7)	EGVWVHNE (SEQ ID NO: 8)		
B0372+_neimeB	6 SFHGSTLVKTADG (0)	YKAIARIRTGDRVFAKDEASGK (27)	NNQTLISNKIHPFYS (3)	WIQAGRLKKGDTLLS (0)
ESGAKQTVQNITLK	(4) KAYNLTVADWHTYFV (7)	EGVWVHND (SEQ ID NO: 9)		
B0655+_neimeB	9 SFHGSTLVKTADG (0)	YKAIARIRTGDRVFAKDEASGK (27)	NNQTLISNKIHPFYS (3)	WIQAGRLKKGDTLLS (0)
ESGAKQTVQNITFK	(4) KAYNLTVADWHTYFV (7)	EGVWVHND (SEQ ID NO: 10)		
3875_87_magma	292 CFVAGTPVRMADG (1)	EKALETVEIGEQQVQGTGTTNE (17)	NSLDFFTADHPFLT (17)	ALNVTQLVIGDTLLT (-)
-----	(19) VVYNLHLIGNNTYVA (0)	SGYYVHNY (SEQ ID NO: 11)		
FhaB_psesy	5987 CFAAGTMVSTPDG (0)	ERAIIDLKVGDIVWSKPEGGKG (31)	EDESLLVTPGHFFV (5)	FVPVIDLKPGRRLQS (-)
-----	(23) KTYNLTVDVGHTFYV (2)	LKTWVHNT (SEQ ID NO: 12)		
FhaB1_psef1-pf0-1	1783 CFAAGTMVATPKG (0)	ERAIETLKIGDVWSKPEQGE (31)	SSETLEVTTPGHFFV (5)	FVPLIELQPGDRRLQS (-)
-----	(23) RTYNLTVDIGHTFYV (2)	LGTWVHNV (SEQ ID NO: 13)		
FhaB2_psef1-SBW25	3835 CFAAGTMVATPSG (0)	DRAIDLKVGIEIWSKPEHGGE (31)	EGETLLVTPSHFFV (5)	FVPAINLKPGLLQS (-)
-----	(23) KTFNLTVDIGHTFYV (2)	LKTWVHNT (SEQ ID NO: 14)		
SCP1.201_strco	1082 SFPAGTRVLMADG (1)	RRSIEQIEAGDLVTATDPTTGE (24)	DGSTLTSTTHHPYWS (5)	WKNAGDLEAGDTLRT (0)
PONTAVVIAATHDW	(4) DAYDLTVDGPHSYV (4)	TDVLVHNN (SEQ ID NO: 15)		
39_9_thefus	314 SFVPGTLVLLADG (1)	YAPIETITVGDDVWAFDPRTGT (28)	HGGVVVATDAHPFWV (5)	WVAAIDLEPGTWLRT (0)
SAGTWVQVRAVAVR	(5) RVHNLTVADLHTYV (4)	ADALVHNE (SEQ ID NO: 16)		
MafB1_neigo	347 SFHGSTLVKTADG (0)	YKAIHQAGDRVLSKDEASGE (27)	NSQTLISNRIHPFYS (3)	WIKAECLKAGSRLLS (0)
ESGKTQTVRNIVVK	(4) KAYNLTVADWHTYFV (7)	EGVWVHND (SEQ ID NO: 17)		
BIL2_neigo	9 PFHGSTLVKTADG (0)	YKAIARIRVDHVFADKDEASGE (27)	NNQTLISNRIHPFYS (3)	WIKAECLKAGSRLLS (0)
ESGRTQTVRNIIIVK	(4) KAYNLTVADWHTYFV (7)	EGVWVHNA (SEQ ID NO: 18)		
BIL3_neigo	9 SFHGSTLVKTADG (0)	YKAIHQAGDRVLSKDEASGK (27)	NSQTLISNRIHPFYS (3)	WIKAECLKAGNRLFA (0)
ESGKTQTVRNIVVK	(4) KAYNLTVADWHTYFV (7)	EGVWVHNS (SEQ ID NO: 19)		

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MafB2_neigo	347 SFHGSTLVKTADG (0) YKAIAHIQAGDRVLSKDEASGE (27) NSQTLISNRHHPFYS (3) WIKAEEDLKAGSRLLS (0)
ESGKTQTVRNIVVK	(4) KAYNLTVADWHTYFV (7) EGVVHND (SEQ ID NO: 20)
BIL5_neigo	9 SFHGSTLVKTADG (0) YKAIAHIQAGDRVLSKDEASGE (27) NSQTLISNRHHPFYS (3) WIKAEEDLKAGSRLFA (0)
ESGKTQTVRNIVVK	(4) KAYNLTVADWHTYFV (7) EGVVHND (SEQ ID NO: 21)
BIL6_neigo	9 PFHGSTLVKTADG (0) YKAIAHIQTGEHVFAKDETSKG (27) NSQTLISNRHHPFYS (3) WIKAEEDLKAGSRLLS (0)
ESGKTQTVRNIVVK	(4) KAYNLTVADWHTYFV (7) EGVVHNS (SEQ ID NO: 22)
MafB1_neimeC	348 SFHGSTLVKTADG (0) YKAIAHIRVGESVFAKDETSKG (27) NSQTLISNRHHPFYS (3) WIQAGRLKKGDTLLS (0)
ESGAKQTVQNITLK	(4) KAYNLTVADWHTYFV (7) EGVVHND (SEQ ID NO: 23)
BIL2_neimeC	9 PLYVGALVKTADG (0) YKAIAHIRVGESVLSKDEASGK (27) NSQTLISNRHHPFYS (3) WIQAGRLKKGDTLLS (0)
ESGAKQTVQNITFK	(4) KAYNLTVADWHTYFV (7) EGVVHNA (SEQ ID NO: 24)
BIL4_neimeC	9 SFHGSTLVKTADG (0) YKAIAHIRVGESVLSKDEASGK (27) NSQTLVSNKIHHPFYS (3) WIKAEEDLKAGSRLLS (0)
ESGKTQTVRNIVVK	(4) KAYNLTVADWHTYFV (7) EGVVHNA (SEQ ID NO: 25)
BIL5_neimeC	9 SFHGSTLVKTADG (0) YKAIAIRITGDRVFAKDEASGK (27) NNQTLISNRHHPFYS (3) WIQAGRLKKGDTLLS (0)
ESGAKQTVQNITFK	(4) KAYNLTVADWHTYFV (7) EGVVHNA (SEQ ID NO: 26)
BIL6_neimeC	9 SFHGSTLVKTADG (0) YKAIAHIQAGDRVLSKDEASGE (27) NSQTLVSNKIHHPFYS (3) WIQAGRLKKGDTLLS (0)
ESGAKQTVQNITLK	(4) KAYNLTVADWHTYFV (7) EGVVHNS (SEQ ID NO: 27)
FhaB_manha	2881 SFHGDMEVKTDKG (0) YRQISSIKVGDKVLAKNERTGI (27) KYHTIVSNKIHPPFT (24) WVDAQHLQKGYRLLA (0)
ESGEWQTVTKVKIK	(4) KAYNMTVEKDHTYFI (7) EGVVHND (SEQ ID NO: 28)
BIL1_cloth	48 CFVAGTILITVAG (0) LVAIENIKAGDKVIATNLETPE (22) NGEVIKTTTFEHPFV (4) FVEAKELQVGDKLLD (0)
SKGNVLVVEEKKLE	(6) KVNPFHVDDFYTYHV (2) NGILVHNA (SEQ ID NO: 29)
BIL2_cloth	31 CFVAGTMVLTAAG (0) LVAIENIKVGDKVIAANPETPE (22) GGEVIKTTTFDHPFV (4) FVEAVNLQVGDKLVD (0)
SKGNVLVVEEKKLK	(6) KVNFKVDDFHTYHV (2) KGILVHNA (SEQ ID NO: 30)
BIL4_cloth	16 CFVAGTMILTATG (0) LVAIENIKAGDKVIATNPETPE (22) GGEVIKTTTFDHPFV (4) FVEAGKLQVGDKLLD (0)
SRGNVLVVEEKKLE	(6) KVNFKVDDFHTYHV (2) NEVLVHNA (SEQ ID NO: 31)
BIL5_cloth	31 CFVAGTMILTTTG (0) LVAIENIKAGDKVIATNPETPE (22) GGEVIKTTTFDHPFV (4) FVEAKQLHVGDKLLD (0)
SKGNVLVVEDKKIK	(6) KVNFAQVADFHTYHV (2) NGVLVHNV (SEQ ID NO: 32)

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BIL6_cloth
SKGNVLVVEDKKIK 87 CFVAGTMILTATG (0) LVAIENIKAGDKVIATNPETFE (22) NGDVIKTTTFFHLFYA (4) FVEAKELQVGDKLID (0)
(6) KVNFOVDDFHTYHV (2) NGVLVHV (SEQ ID NO: 33)

BIL8_cloth
SGGNVLVVEXKKPE 8 CFVAGTMILTATG (0) LVAIENIKAGDKVIATNPETFE (22) GXEIIKTTTLGHLFYV (4) FVEAVKLQPTDKLVD (0)
(6) KVNFKVNDFTYHV (2) NGILVHV (SEQ ID NO: 34)

BIL9_cloth
SGGNVLVVEXKKPE 22 CFVAGTMILTATG (0) LVAIENIKAGDKVIATNPETFE (22) GXEIIKTTTLGHLFYV (4) FVEAVKLQPTDKLVD (0)
(6) KVNFKVNDFTYHV (2) NGILVHV (SEQ ID NO: 35)

0709_lepin
SDGSWGTGTGIYY 2026 CFTAGSKVTKLKN (29) FANIEIKIGDIVRSWNENTNT (23) GEEIHTTWNHPFRR (78) WVKVEDLRLKDQVLR (0)
(5) KVNLEVEDNHTYVV (6) IGYVVHV (SEQ ID NO: 36)

3725_lepin
SDGSWGTGTGIYY 2037 CFVAGSKVTKLKN (29) FANIEIRIGDVRSWNENTNT (23) GEEIHTTWNHPFRR (74) WVKVEDLRLKDQVLR (0)
(5) KVNLEVEDNHTYVV (6) KGYVVHV (SEQ ID NO: 37)

BIL2_gemob
LSGEWVPIAEVFD 1296 CFAAGTKLLTRRG (0) WVAVELLGIGDEVASRTEHDLT (24) GGELIRTTPEHPFV (4) WTAAGSLAAGDRIAT (4)
(4) PVNLRVADHHTYFV (6) FAAWAHNA (SEQ ID NO: 38)

BIL1_gemob
----- 6441 CFASGTPMTPGG (0) WCNIENLRVGDFVLSRDEFSP (23) LGQTIRSTDEHPFV (-) ----- (-)
(37) TVNFRVADHHTYFV (6) FSVWAHNI (SEQ ID NO: 39)

BIL1_pirsp
----- 560 CLVAGTILVWTD RG (0) MRPVESLRLGDQVLSCDVQTGS (22) GSDEIVASKGHPFV (4) WTTTEQLVPGDALHG (-)
(16) KTYNLVVEQTHSYFV (2) SRILSHDA (SEQ ID NO: 40)

BIL1_strav
SGNQHATITSVLAQ 2125 SFKPTTRVLMKDG (1) TKPLGKIKPGDLVEAADPTS GH (28) RIQTLHTTARHRIWD (5) WEQAGRLITGHKVNT (0)
(4) DMYDLTVEGLHTYV (4) TPVLVHNG (SEQ ID NO: 41)

BIL2_strav
DDGDTVIVTGNRAF 2105 CFLAGTDILMADG (1) TKDIEEVELGDKVQATDPKTGE (27) GAEELTATHEHPFWS (5) WITAGSLEPGMTLLT (0)
(4) TTYNLTVNDLHTYV (4) TPVLVHNS (SEQ ID NO: 42)

BIL3_strav
PDGTGVRIDKVTHW 389 SFPAGTRVLMGDG (2) TLPIEQITVGDSVLATDPEAGT (29) GPPALTATDRHPFV (5) WADARDLNSGDTLRT (0)
(4) GAYNLTVNDLHTYV (4) VPVLVHNA (SEQ ID NO: 43)

o1070_myxxa
----- 937 CVAPWELVLLGDG (1) EVPAEMLRPGMRVLTMEHERD (22) DGRVLVVTDPDRWRT (-) ----- (-)
(33) DVMRITVRFAMTYIV (0) QGLLAHNL (SEQ ID NO: 44)

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o1078_myxxa 945 CVAPWEPVLLSDG (1) EVPAEMLRPGMKVLTMEHERD (22) DGRAVVVTPDHRWRT (-) ----- (-)

----- (35) DVMKISVRFAKTVV (0) QGLLAHL (SEQ ID NO: 45)

o649_versp 415 CFPSTGTMVQTARG (0) KVAIETLKEGDVVLAYDFLSEC (22) GDSKISATRFHLFWV (5) WVPADVLPQGMVLR (0)

ESGALTWTTLAKLR (6) ATHNFEVADLHNYFV (2) QGFLVHG (SEQ ID NO: 46)

o5687_versp 548 CFPAGTMVLMADG (1) SVPIEQVVEGDIVLAAEPETES (24) TGSVLKVTGEHPWT (4) WQHADDLVEGDLLK (-)

----- (19) DTFNLCEGVHTFV (4) DAVLVHNT (SEQ ID NO: 47)

o3395_versp 3123 CFAPGTPVLMGDG (1) TRPVETIREGDMADDPEDER (30) PDGALKATGHPFWT (4) WIKVCNLQPNLILAD (-)

----- (18) ATYNLSVANIHTFV (4) VPVLVHNT (SEQ ID NO: 48)

BIL3_glovi 1741 CFAEGTEVQTEG (0) TKAIEKVEPGEKVLARNEKTGE (29) ERDTLTVTGEHPFFL (4) WTAAERLRSGERVQA (0)

VDGKWLVRVVGLOPQ (4) RTYNLEVEGEHTFFV (2) TRAWVHNE (SEQ ID NO: 49)

BIL2_glovi 115 CFAEGTEVQTEG (0) AKPIELVAPGEKVLARNEQTGE (29) DRDVLTVTGEHPFWT (4) WTAADKLQVGERVQT (0)

VDGQWLVRVAGLOAQ (4) RTYNLEVERDHTFFV (2) SKAWVHNE (SEQ ID NO: 50)

BIL1_glovi 184 CFSEGTEVQTEAG (0) AKPIELVEPGEKVLARNEQTGE (29) ERDTLTVTGEHPFFL (4) WTAAERLKSGERVQA (0)

ADGKWLVRVAGLEAQ (4) RTYNLEVEGDHTFFV (2) NQAWVHNE (SEQ ID NO: 51)

BIL1_chrvi 485 CFVAGTQVLTDKG (0) LKAIEFTFVGGEWWSRSDQTGE (27) RQETFRTTAEHPFWV (4) WLKASLLQAGVILVD (-)

----- (18) TVFNIQVAEFQTHV (2) LGVWVHNA (SEQ ID NO: 52)

BIL4_glovi 81 CFAEGTEVQTEG (0) TKAIEKVEPGEKVLARNEKTGE (29) ERDTLTVTGEHPFFL (4) WTAADKLQAGDRVQA (0)

VDGRWLVRVVGLOAAQ (4) RTYNLEIEGEHTFFV (2) NQAWVHNE (SEQ ID NO: 53)

BIL5_glovi 104 CFGEGTAVQTETR (0) AKPIEQIEPGEKVLARSERTGQ (43) ERDTSTVTGEHPFFL (-) ----- (-)

----- (-) ----- (-) ----- (SEQ ID NO: 54)

BIL3_neimeC 11 ----- (-) -----

ESGKTQTVRNIVVK (4) KAYNLTVADWHTYFV (7) EGVWVHND (SEQ ID NO: 55)

BIL3_cloth 70 CFVAGTMILTATG (0) LVAIENIKAGDKVIATNPETFE (22) NGEVIKTTFEHPFV (4) FVEAGKLQIGDRLVD (0)

----- (-) ----- (-) ----- (SEQ ID NO: 56)

BIL7_cloth 17 ----- (-) -----

SKGNVLVVEKKLE (6) KVNFKVNDFTYHV (2) DGILVHNA (SEQ ID NO: 57)

----- (-) ----- (-) -----

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BIL10_cloth	0	-----	(-)	-----	(-)	-----	(-)
-----	(-)	VYNEKVDNFHTYHV	(2)	NRVLVHNA	(SEQ ID NO: 58)		
BIL11_cloth	10	-----	(-)	-----	(-)	FVKEMKLQPGNRLVD	(19)
KVYNF-----	(-)	-----	(-)	-----	(SEQ ID NO: 59)		
3719_lepin	123	-----	(-)	-----	(-)	WVKVEDLRLRDQVLR	(0)
SDGSWGTVTGIYY	(5)	KVYNLEVEDNHTYIV	(6)	IGYVVHNY	(SEQ ID NO: 60)		
BIL6_glovi	136	CFAEGTEVQT-----	(-)	-----	(-)	-----	(-)
-----	(-)	-----	(-)	-----	(SEQ ID NO: 61)		
BIL7_glovi	13	-----	(-)	-----	(-)	WTAERLEPGDRVQA	(-)
-----	(-)	-----	(-)	-----	(SEQ ID NO: 62)		

Fig. 1b
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00126_rhoa 160 CFTPGTLIDTPAG (0) PRPVEALRPGDRVSTRD (3) QEILWIGSRM (12) PVRLGAVRLG (14) AADLLVSPQHRVLV (12)
EVLVQACDLVDAAV (8) VTYLHLLFARHQVIRAN (0) GVETESF (SEQ ID NO: 63)

00199_rhoa 37 GFYGETVLQTARG (0) LRRVSSILEGEKMRFT (3) APVLSIERFAL (12) PLSLPAGLFG (1) TRNRFVAPEQCILL (12)
LLLVPKAVLGLLPQV (8) AVLYRLLFERPELVVTD (1) GAVMLCD (SEQ ID NO: 64)

00459_rhoa 38 GFAAGTRVRTAG (0) LRRITLKPGLDVTQE (3) QPVVAVERTRL (7) PIRFAAGAHG (1) ERPVLVAPQQRVLV (12)
EVLVAARTLVDGEMV (7) VDYVRLVDFDCAHMFVFAE (0) GLAVECF (SEQ ID NO: 65)

00460_rhoa 174 CFAPSTPIATPGG (0) DCPAASLKAGDLVLTAD (3) QPILWSGRIAL (7) PVRLCAPAFG (1) TRDLWVLPQHRVAL (12)
EVLVPAHHLVDGISA (8) LSWHGLLLQGHLLIAD (0) GCRVESL (SEQ ID NO: 66)

00588_rhoa 473 CFTAGTLIETPRG (0) PVPVESLRAGDLVVTRD (3) VPVLWSGGRSL (12) PVAIRENALG (1) HGALLLSPQHAVLA (5)
ERLVRARHLAAGLNDP (10) VSYHHILLERHGVITAN (0) GLACESL (SEQ ID NO: 67)

00746_rhoa 85 ALARGSVLMTEDG (0) PVAIEDLPQGQVLTAE (3) ERVCWIGSMVI (15) LTRITAEAFG (4) ALDLVLGPRARLCL (12)
AADVPARAFLDGISV (8) VTVYHVVLQHGSLRVA (0) GLEVEAF (SEQ ID NO: 68)

00949_rhoa 125 CLGTGTMIATAEG (0) PAPIDWLRPGDRVLTRD (3) QPLLWVGQHTM (9) PLLLSAACFG (4) ERDVLLSPGTGVLL (12)
EMFAKARHALPKAEA (4) QKLYSMILLATPEVVLAE (0) GMWVGSV (SEQ ID NO: 69)

01216_rhoa 128 CFAAGTLIATRRG (0) PKPVEDLGPEDRLQTS (3) RPQWVGRWRV (7) PVRFAPGVLG (1) DRALFLSGQHRVLI (10)
EVLVAAKALVGLPGI (7) VDWVHVMMPTHEVIFAE (0) NARAETM (SEQ ID NO: 70)

01374_rhoa 144 AFTTGTITMAGG (1) QRPIETLAPGDRVLTRD (3) QPVRLVARATL (7) PVVISAGTLG (1) ESDLVAVPHHRVFL (12)
EILVQAKHLVDGEHV (7) VDYFALVDFDRHEIVYAE (0) GVPVESL (SEQ ID NO: 71)

01523_rhoa 85 CFTATSLIATGQG (0) GVPVSELVPGARVITRD (3) QELLWVGRRRF (12) PVRIAAGALG (4) ERDMLVSPNHRFLT (9)
ERLTWARDLVGLDGI (7) VDWQLLFAHHELVLAD (0) GAWSESF (SEQ ID NO: 72)

01524_rhoa 89 CLTPGTLIETKRG (0) QVPVEKLRPQDRVLTRD (3) QPIRWIGRRRL (12) PVRIAAGALG (4) ETDMLVSPQHRMLI (12)
EVLAAALHMLGQPGI (7) VTYLHMLDAHEIIRAN (0) GAWTESF (SEQ ID NO: 73)

02710_rhoa 541 CLVAGSRVSTPRG (0) PVPVEDLRPEDLVTVTRD (3) LPVLWIGRRRV (12) PVEIGAGRLG (1) AAPVRLSALHGIAV (2)
GFLARAGHLAATGWG (14) VLYLHLLPRHALLSVE (0) GLWVESF (SEQ ID NO: 74)

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03530_rhoca 39 GFAMGSRVATMDG (0) LLPVEFLNLGDRIVTRS (-) ----- (16) LVGIAPGALG (4) GQAMVLGSGTQVLL (12)
QALVAVERLIDGQFI (7) IRIFALHFEAPEVIYAD (0) GVEIGCK (SEQ ID NO: 75)

4825_rhosp 28 CFTPGTLIATVRG (0) EVAVEALAAAGDRIVTRD (3) QPLRWISRRRL (12) PVLIEKGSIG (4) DRDMVSPNHRILV (12)
EVLVAAKHLVGPRGI (7) TTYLHLMFDRHEVVLAN (0) GAWTESF (SEQ ID NO: 76)

BIL2_rhosp 34 SLTAGTPVLITLAG (0) IRPAEGIRPGDRLVARS (-) ----- (17) MVAIGASTLA (4) DETLLVPADQPLLL (12)
PVVLPARRLVDGQLT (7) VDLVTLTFAAPAAIYAS (0) ELHPVTR (SEQ ID NO: 77)

BIL1_brusu 86 CLLKGTLVTPNG (0) PVAVEKLCVGLVTTVS (3) LPIKWIGWQNY (12) PIRVRRHALD (4) HRDLYLSPNHALFI (1)
GVLIRVKDLVNGRSI (8) LDYYNIVLDRHAAVLAELAE (0) GAAVETF (SEQ ID NO: 78)

II0519_brume 15 CLLKGTLVTPNG (0) PVAVEKLCVGLVTTVS (3) LPIKWIGWQNY (12) PIRVRRHALD (4) HRDLYLSPNHALFI (1)
GVLIRVKDLVNGRSI (8) LDYYNIVLDRHAAVLAELAE (0) GAAVETF (SEQ ID NO: 79)

BIL1_unknown 217 CFLPGTMIKTPSG (0) ERPVEDIQINDEVITFD (8) SKIKWVGSKI (13) PVRILKNAIS (4) HKDLLVTPEHCLEFF (1)
GKFIPVRMLNVHQTI (8) YTYHIIETENHSVIYSD (0) GMLTESY (SEQ ID NO: 80)

BIL2_unknown 184 CFLSGTQIKTKLG (0) VKNIEALQVGFVTTVD (8) REVTVGKKYC (13) PVRIVKDAIA (4) YKDLLVTAEHCLFF (1)
DKFIPARMLVNGSTI (8) YEYHLETOQHAVIAD (0) GVRTESY (SEQ ID NO: 81)

BIL1_metex 139 CFTTGTLIARTAG (0) SVAVEDLIVGDLAVITAS (3) RPITWIGNRAL (12) PIRIRAGAFG (4) ARDLRLSHGHPVLV (8)
GVLVPVMCLINGTSV (7) VTYWHIELDAHDILLAE (0) GLAAESY (SEQ ID NO: 82)

BIL1_silpo 162 CFTPGTKIATPKG (0) ERLVEDLEVGDRLVITRD (3) QEIRWVGSRTL (12) PVLIRQOALG (4) ERDMIVSPNHRILV (12)
EVLVAAKHLIGLEGV (7) VTYIHFMFDQHEVVLSD (0) GAWTESF (SEQ ID NO: 83)

BIL2_silpo 697 CFCRGTLIATAGG (0) EIPVEKLRPGDRVITRD (3) QRIRWIGGTSR (7) PIRIRTGVLK (1) TRDLLVSPNHRILM (12)
EVLVAAKFLVDGRAI (7) VDYVHMLFDQHELVLSLSE (0) QAWSESF (SEQ ID NO: 84)

BIL3_silpo 512 CFAAGTRIETDRG (0) GRAIEDIAGVDLVLTRD (3) QPVRWTGRRSV (7) PIRIASGKLG (1) LRDLLVSPQHRLLL (12)
EVLAAAVHLRDDRI (7) VTYVHLMFDRHEIYAE (0) GVASESF (SEQ ID NO: 85)

BIL4_silpo 159 CFTPGTRIATPTG (0) PRLIEELREGDKVQTRD (3) QEIQWIGQRRM (12) PIRMRVGALG (4) DAELLVSPEHRMMLL (12)
EVLVPARDLVNDSTI (8) VTYVHLLLPSSHQILWAN (0) GIETESF (SEQ ID NO: 86)

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BIL5_silpo 153 CFAAGTFIEISG (0) PIPVETLRPGDLVQTLTD (3) QPLLIQAKTTV (7) PVLFRAGVLG (1) FRDLVVSQQHRMLI (12)
EVFVPARMLVNGSTI (7) LTYHLLFARHEIVFSE (0) GIPTESY (SEQ ID NO: 87)

BIL6_silpo 350 CFVAGTLIDTPYG (0) ERQVERLTDPGQVFTRD (3) QEVWVGERTV (7) PILIRAGTYG (1) QRDLMVSPQHRILI (12)
EVLVAAKDLVDGRRV (7) IITYHVMEFDSHQVIYSE (0) GLASESF (SEQ ID NO: 88)

BIL7_silpo 248 SLHPETPIATPDG (0) YRPLSKIRRGDTIVIVAS (3) VVPLHRVSRMTM (7) PLTIRRPYFG (1) RQDIOAAPSQRLLL (12)
SVLVPARHLTGHSV (8) ATYAQALLPTNEAMITA (0) GALAESL (SEQ ID NO: 89)

BIL8_silpo 179 CFVAGSLIDTVEG (0) PRPVETLAVGDLVPVED (3) QPILWIGKRTL (12) PVRIRRDALG (4) HRTLWVSPQHRIVL (12)
QVFAAAIHLTNDTTI (8) VTYHHLAFERHLLRAH (0) GLLSESI (SEQ ID NO: 90)

BIL9_silpo 511 CFTPGLTIIATAG (0) PRAIETLRPGDLIVTRD (3) QPLRWVGSRTV (7) PIRLDPTLLQ (2) SAPLLVSPQHRMLW (12)
EVLVAATHLLGSPAA (7) VTYHMLMLDRHEVIYAN (0) DAATESF (SEQ ID NO: 91)

BIL10_silpo 174 CFTPGLTIIIDTDG (0) PRLIEELQPGDLIRTLD (3) QPLRWIGRTTV (7) PVLIRAGALD (1) RRDLLVSPQHRMLI (12)
QALVAAKHLVNARDI (7) VTYIHLLFDRHEIWAEE (0) GCPTESF (SEQ ID NO: 92)

BIL11_silpo 162 CFAAGTRIATPKG (0) ARPVETLAVGDLVQTLTD (3) QPIRWIGTRRV (12) PVVIRAHSAFA (4) THPLLLSQQHRVLL (12)
EILIAARLTLGLHI (8) VRYIHFAIDRHEIVFAN (0) GLPAETL (SEQ ID NO: 93)

BIL12_silpo 158 SFTRGTHITLGS (1) QVRIEDLKVGDRVLTRD (3) REVRWIGQTTV (7) PIVIRAGTLN (1) ENDLVSPDPHRLFV (12)
ELLLKARHLVNGDTV (7) VDYFQLLFDHRHHIYAE (0) GIAAETM (SEQ ID NO: 94)

BIL13_silpo 75 AFSRGLIDTDCG (0) PMAIEDLLPGDRVITQD (3) QEVWVGSTVI (13) LTRINADAFG (4) MSGVIAGPSARLLA (12)
PMLTPVQHFVDGMI (8) IEVFIHICLRHHAVINVD (0) GLOFETY (SEQ ID NO: 95)

BIL14_silpo 30 GLPAGTMLETEAG (0) WSPVEEIRPGTRVATID (1) ----- (18) LWRIPGGTLG (1) CSDLLPEGHFLAL (12)
TVLAPVAALAGFEGI (7) LPAHSLRFABEEVWVAQ (-) ----- (SEQ ID NO: 96)

BIL15_silpo 35 GFLAGTILLTQDG (0) EMPVEFLSPGDRITTRD (3) VPLHHITRAPQ (3) AIRIAGSLG (4) DCDLLPAGQPVL (12)
QAMVRADALVDGEFI (7) MOLFLHFDSAHVLYAG (-) ----- (SEQ ID NO: 97)

BIL16_silpo 53 GLLAGTSVASNFG (0) WQVPEALKVGDKVLTFFD (3) QTVADIQRETV (11) PVRLPEGVCH (1) RRDLMWMPDQGLLV (12)
YAVVPARMLRGYRGI (8) VEVTTLAFHQDEVIYVE (-) ----- (SEQ ID NO: 98)

BIL17_rhile 122 CFLRGTAITLDCG (0) EKPVENLSIGDRVALPD (3) RPIKWVGROSF (12) PIRVSRHALD (4) HSDLYLSPGHALYL (1)
GILIOVKDLVNGKTI (10) IEYYAVMLDTHEVILAG (0) GAETESF (SEQ ID NO: 99)

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BIL3_magma	45	CYVTGTRIRTERG (0)	EIAVEDLOVGDFAVTAS (3)	RPITWIGHREI	(12)	PVRVRAGAFG	(4)	VNDLFLSPGHPVLV	(8)
GVLVPVMCLINGTTI		(7) VTYWHVELDAHDILLAE (0)	GLPAESY (SEQ ID NO: 100)						
BIL4_magma	129	CFVSGTRISVERG (0)	SIPVELLRIGEKARLAS (3)	RTITWIGHREI	(12)	PVRVRAGAFG	(4)	ARDLFLSPGHPVLI	(8)
GVLVPVMCLINGTSI		(7) VTYWHVELDRHDILLAE (0)	GLPAESY (SEQ ID NO: 101)						
BIL2_magma	126	CFVTGTMIATARG (0)	EVAVEDLRAGDFARTAE (3)	RPIVWIGHREI	(12)	PVRVRTGAFG	(4)	ARDLYLSPGHPVLV	(8)
GTLVPI		(-)	(-)	(SEQ ID NO: 102)					
BIL5_magma	18	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
		(-)	VTYWHVELDAHDILLAE (0)	GLPAESY (SEQ ID NO: 103)					
BIL6_magma	10	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
RLPAESY		(-)	(-)	(SEQ ID NO: 104)					

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Fig. 2a

SEQ ID NO: 105

[CSP] [FLV] XX [GSWDT] [TESAM] X [VILM] X [TMLK] XX [GN] X (0-100) [IVAL] [EADGS] X [ILVF] XX [G] [DEM] X [VI] X [ASTG]
 X (0-100) [LIFV] X [STVAVL] [TNS] XXH [PLR] [FIWYV] X (0-200) [AVTM] [YFHM] [NDRK] [LFIM] X [VIL] XXXX [TSNE] [YFL] X
 [VAI] X (0-100) [WLZY] [VAS] [H] [ND] X

Fig. 2b

SEQ ID NO: 106

[CGAS] [FLY] XX [GEST] [TS] X [IVL] XXXXGX (0-100) [VIAL] [ESAD] X [LI] XX [GEN] [DEAQT] X [VIALM] X [TVLA] X [DSET]
 X (0-100) [PLAM] [VILTW] X [ILVFM] XXXXX [ADGHKNQS] X (0-100) [ACDEFHILMQRSTVY] [ACEGHKLNQRST] [ADEGNPT] [ILMR
 V] [FILMQRVWY] [ALMV] [AGLMPST] [AEGHPQS] [DEGHLNQRS] [AHQT] [ACFGPQR] [FILMV] [ACFLVY] [AFILMTVW] X (0-100)
 [ADEGLPQSTY] [AFIKLMRTV] [DFLMV] [AILTV] [AKMPQR] [AIV] [ACDEGHIKLMQRTV] [ACDFHMRV] [AFILM] [AGILRTV] [ADG
 LNP] [ADFGHKLNPQSTY] [ADEGHIMNPQRSTK] [ADEFGHILMQRSTW] [AGIPTV] X (0-100) [AILMQTVY] [DEKLPQRSTV] [AILVWY]
 [AFHILMTVWY] [AGHNQRST] [FILMV] [ACEHLMRTV] [FLMT] [ADEHPQR] [ACDEGHNQRST] [ADEHNP] [ADEGHLQS] [AILMSV]
 [ILMV] [FILNRSTVWY] [AGSTV] [ADEGHNQS]

Fig. 3a Fig. 3b Fig. 3c Fig. 3d Fig. 3e Fig. 3f Fig. 3g

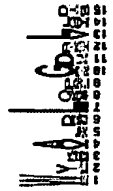
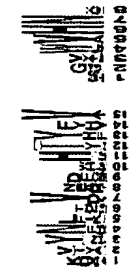


Fig. 3h Fig. 3i Fig. 3j Fig. 3k Fig. 3l Fig. 3m Fig. 3n Fig. 3o

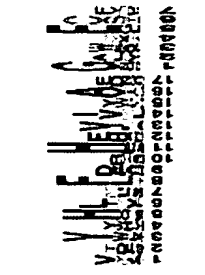
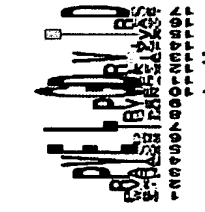
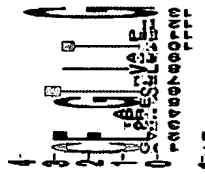


Fig. 3p Fig. 3q Fig. 3r Fig. 3s Fig. 3t Fig. 3u Fig. 3v Fig. 3w Fig. 3x Fig. 3y Fig. 3z

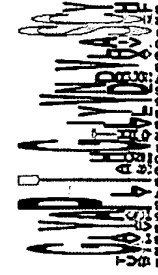
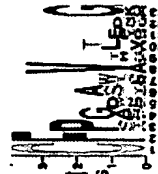
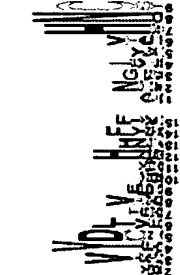
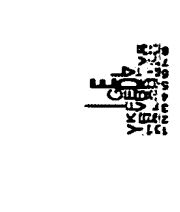
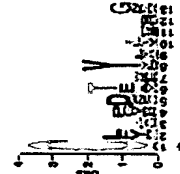


Fig. 3x Fig. 3y Fig. 3z



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Fig. 4a

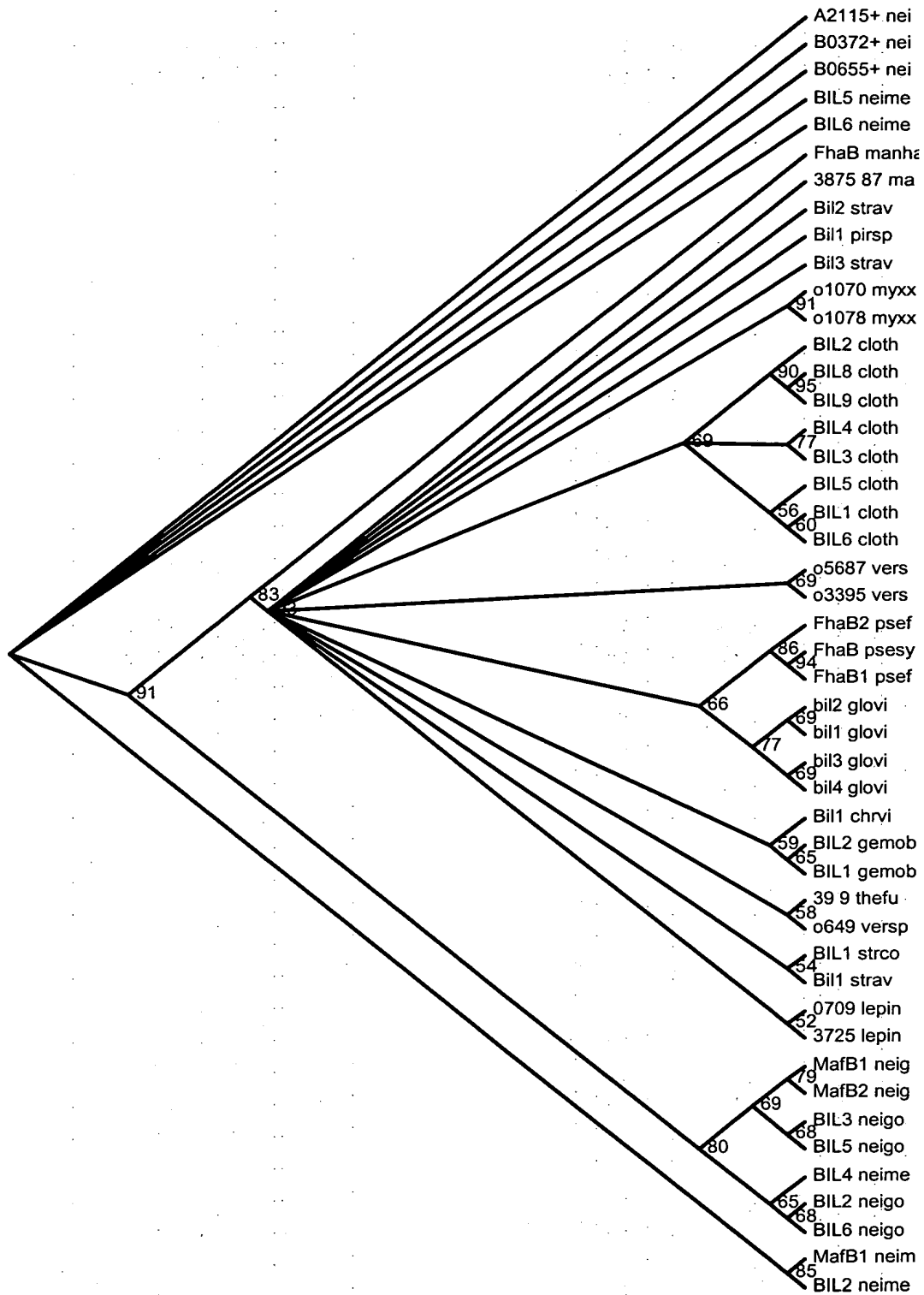
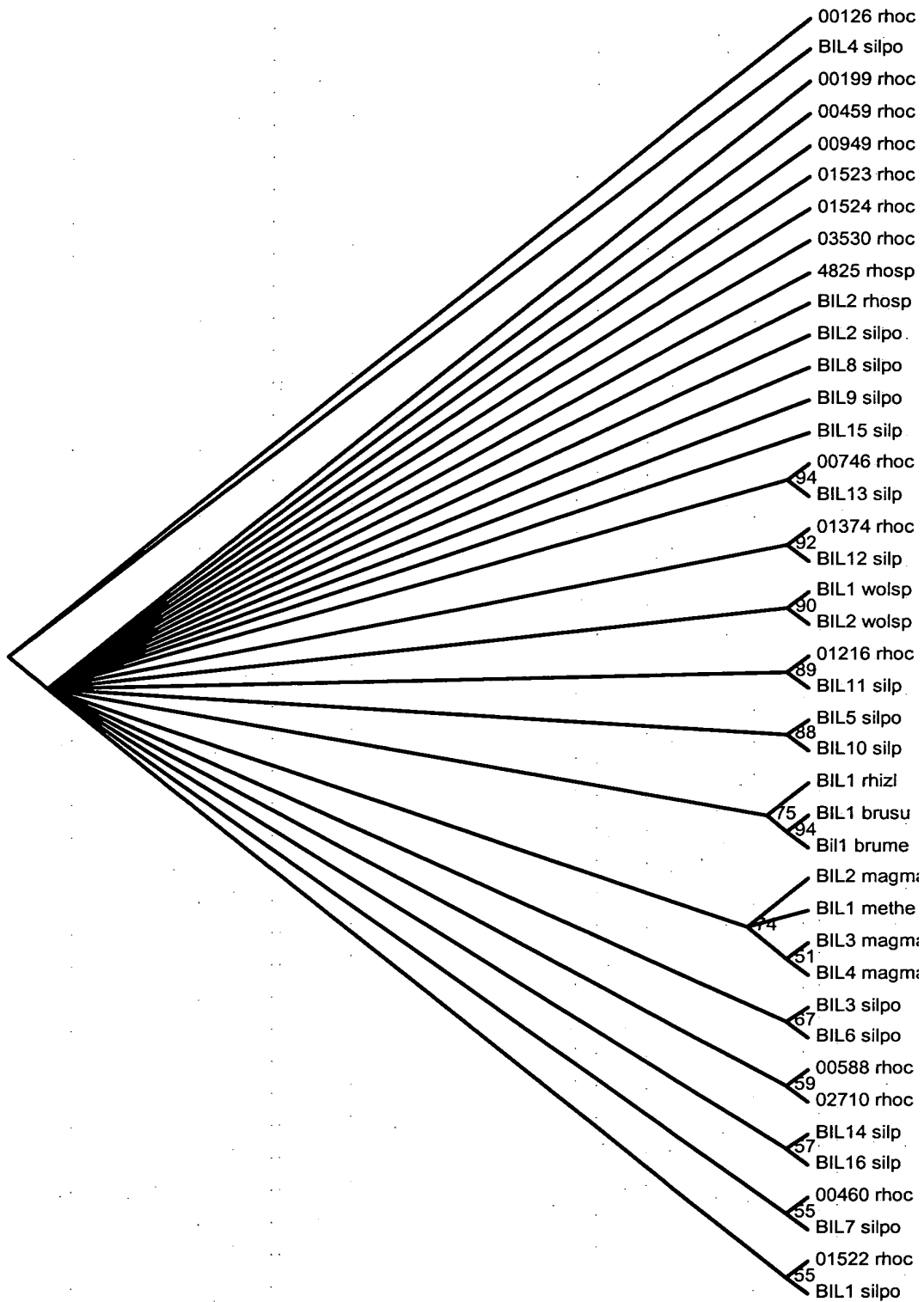


Fig. 4b



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Fig. 5a

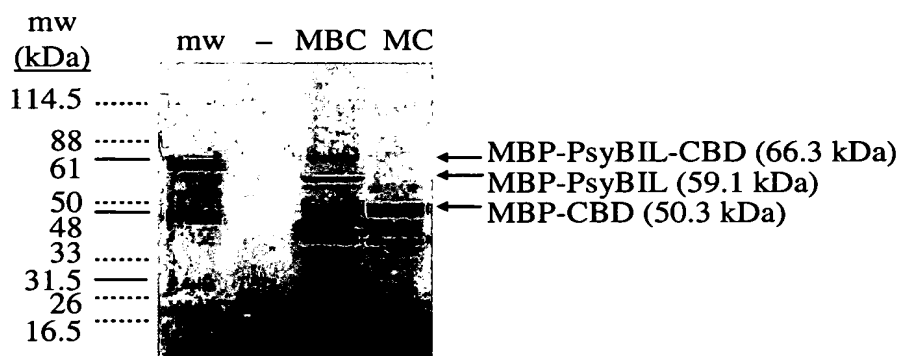


Fig. 5b

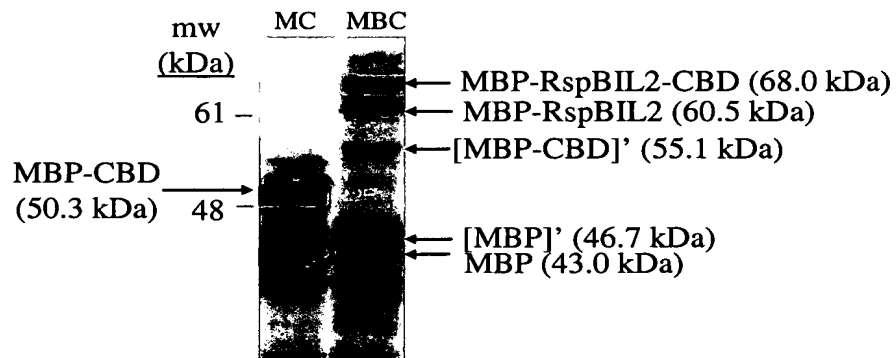


Fig. 5c

SEQ ID NO: 107

<u>CFAAGTMVST</u>	<u>PDGERAIDTL</u>	<u>KVGDIVWSKP</u>	<u>EGGKPFAAA</u>	<u>ILATHIRTDQ</u>	<u>PIYRLKLK GK</u>	6046
<u>QENGQAEDES</u>	<u>LLVTPGHPFY</u>	<u>VPAQHGFVPV</u>	<u>IDLKPGDRLQ</u>	<u>SLADGASENT</u>	<u>SSEVESLELY</u>	6106
<u>LPVGKTYNLT</u>	<u>VDVGHTFYVG</u>	<u>KLKTWVHNT</u>				6135

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Fig. 6a

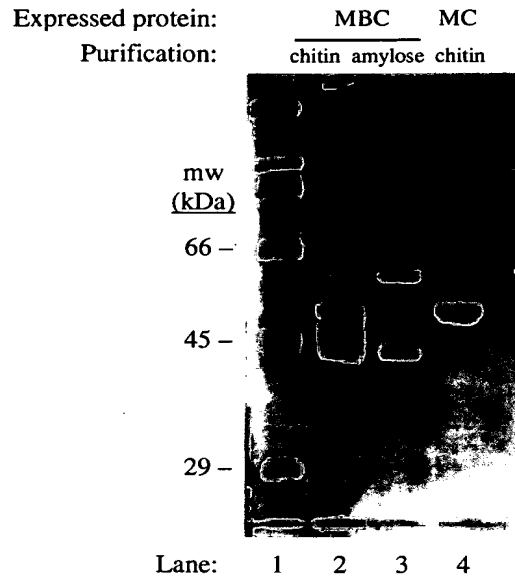


Fig. 6b

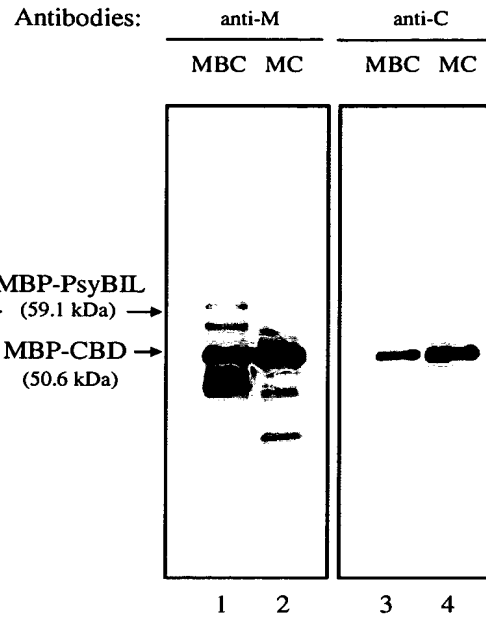


Fig. 6c

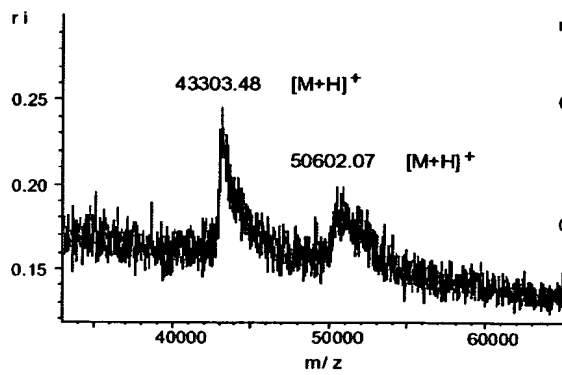


Fig. 6d

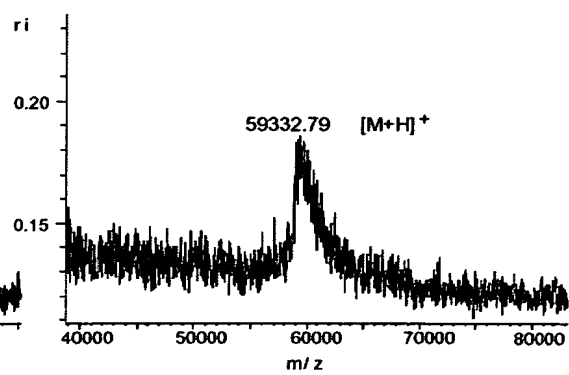


Fig. 7

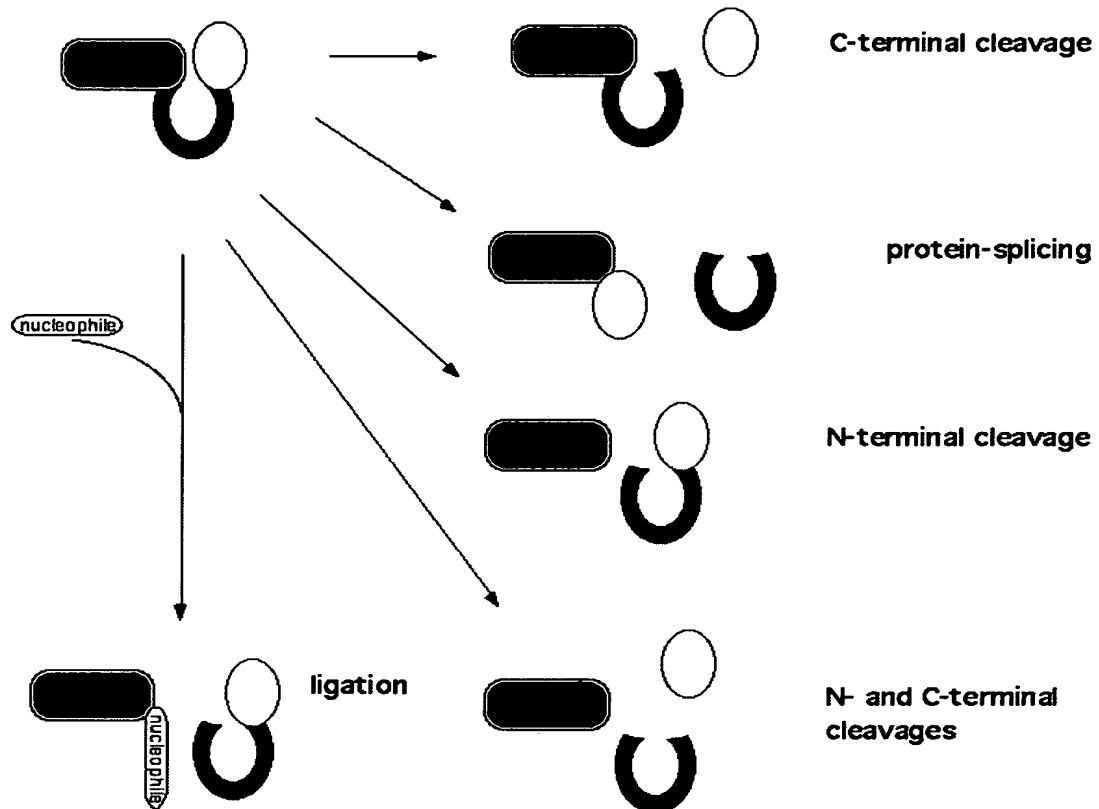
SEQ ID NO: 108	<u>MKTEEGKLV</u>	<u>WINGDKGYNG</u>	<u>LAEVGKKFEK</u>	<u>DTGIKVTVEH</u>	<u>PKLEEKFPQ</u>	<u>VAATGDGPDI</u>	60
	<u>IFWAHDRFGG</u>	<u>YAQSGLLAEI</u>	<u>TPDKAFQDKL</u>	<u>YPFTWDAVRY</u>	<u>NGKLIAYPIA</u>	<u>VEALSIIYNK</u>	120
	<u>DLLPNPPKTW</u>	<u>EEIPALDKEL</u>	<u>KAKGKSALMF</u>	<u>NLQEPYFTWP</u>	<u>LIAADGGYAF</u>	<u>KYENGKYDIK</u>	180
	<u>DVGVDNAGAK</u>	<u>FLVDLIAGLT</u>	<u>KNKHMNADTD</u>	<u>YSIAEAAFNK</u>	<u>GETAMTINGP</u>	<u>WAWSNIDTSK</u>	240
	<u>VNYGVTVLPT</u>	<u>FKGQPSKPFV</u>	<u>GVLSAGINAA</u>	<u>SPNKELAKEF</u>	<u>LENYLLTDEG</u>	<u>LEAVNKDKPL</u>	300
	<u>GAVALKSYEE</u>	<u>ELAKDPRIAA</u>	<u>TMENAQKGEI</u>	<u>MPNIPQMSAF</u>	<u>WYAVRTAVIN</u>	<u>AASGRQTVDE</u>	360
	<u>ALKDAQTNSS</u>	<u>SNNNNNNNNN</u>	<u>NLGIEGRISE</u>	<u>FGSTSRVDCG</u>	<u>GLTGLNSGLT</u>	<u>TNPGVSAWQV</u>	420
	<u>NTAYTAGQLV</u>	<u>TYNGKTYKCL</u>	<u>QPHTSLAGWE</u>	<u>PSNVPALWQL</u>	<u>Q</u>		461

Fig. 8

SEQ ID NO: 109	MKTEEGKLVI	WINGDKGYNG	LAEVGKKFEK	DTGIKVTVEH	PDKLEEKFPQ	VAATGDGPDI	60
	IFWAHDRFGG	YAQSGLLAEI	TPDKAFQDKL	YPFTWDAVRY	NGKLIAYPIA	VEALSIIYNK	120
	DLLPNPPKTW	EEIPALDKEL	KAKGKSALMF	NLQEPYFTWP	LIAADGGYAF	KYENGKYDIK	180
	DVGVDNAGAK	AGLTFLVDLI	KNKHMNADTD	YSIAEAAAFNK	GETAMTINGP	WAWSNIDTSK	240
	VNYGVTVLPT	FKGQPSKPFV	GVLSAGINAA	SPNKELAKEF	LENYLLTDEG	LEAVNKDKPL	300
	GAVALKSYEE	ELAKDPRIAA	TMENAKGEI	MPNIPQMSAF	WYAVRTAVIN	AASGRQTVDE	360
	ALKDAQTNSS	SNNNNNNNN	NLGIEGRISE	FGScfaagtm	vstpdgerai	dtlkvvgdivw	420
	skpegggkpf	aaailathir	tdqpiyrlkl	kgkqenggae	desllvtpgh	pfyvpagqhg	480
	vpvidllkpgd	rlqsladgas	entssevesl	elylpvgkty	nltvdvghtf	yvgklktwvh	540
	n						541

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Fig. 9



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Fig. 10a

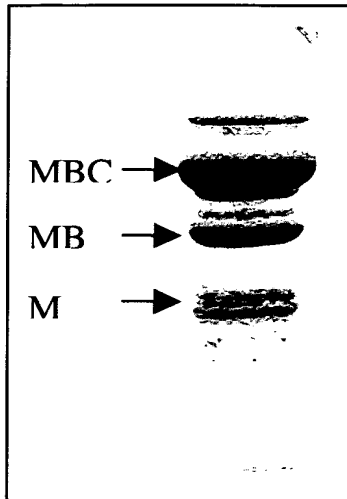


Fig. 10b

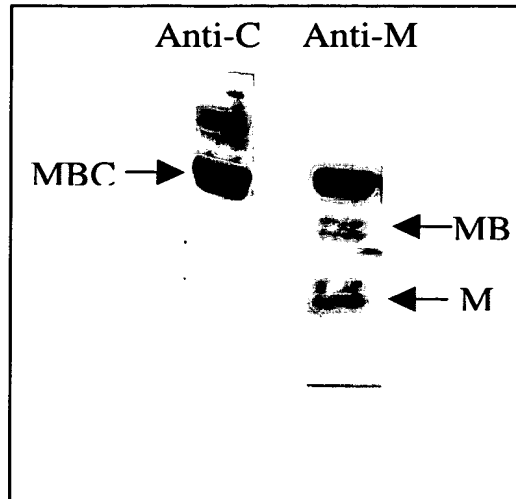


Fig. 10c

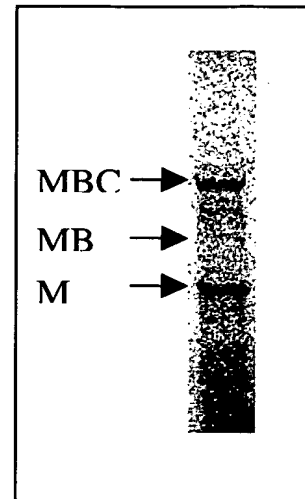


Fig. 11a

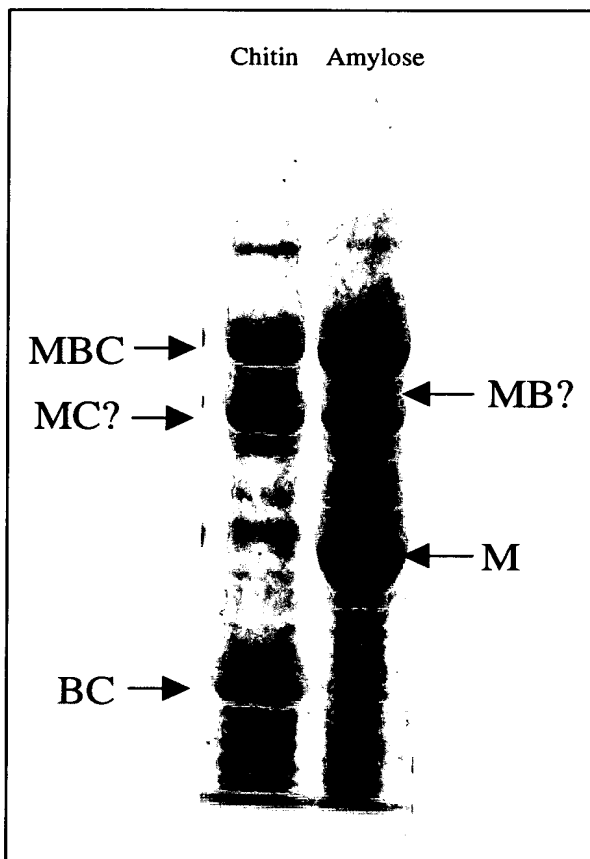


Fig. 11b

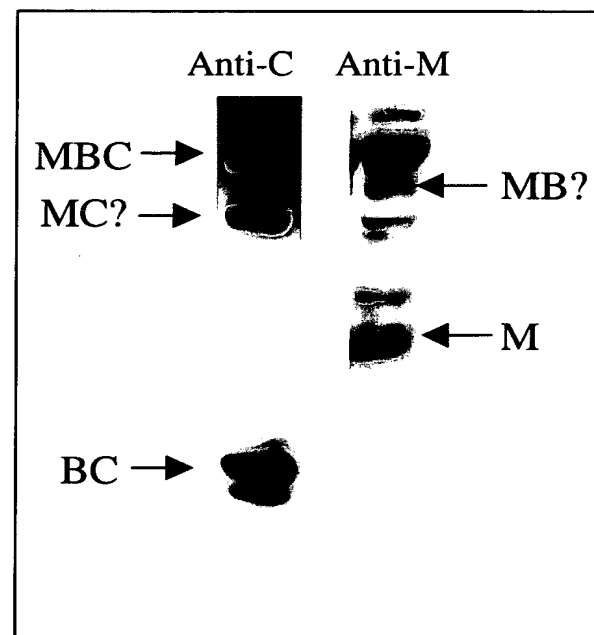


Fig. 12a

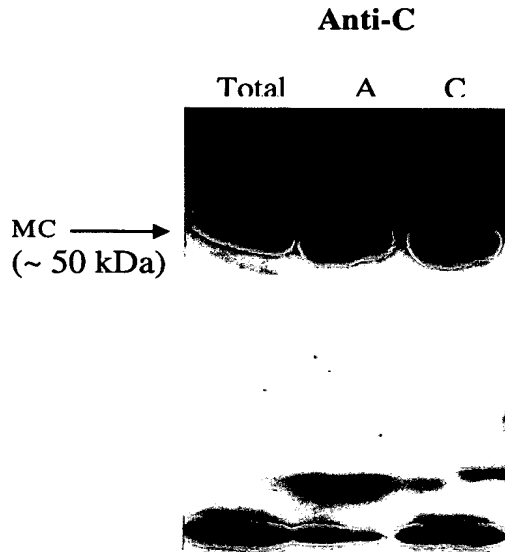


Fig. 12b

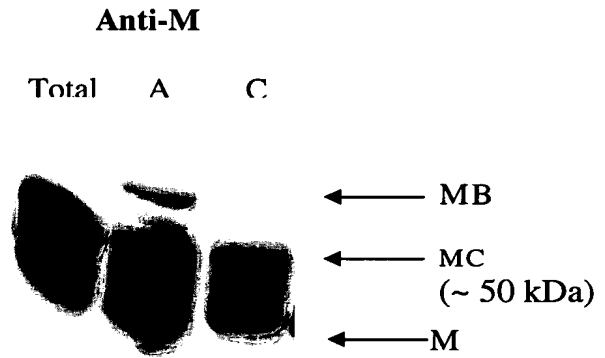
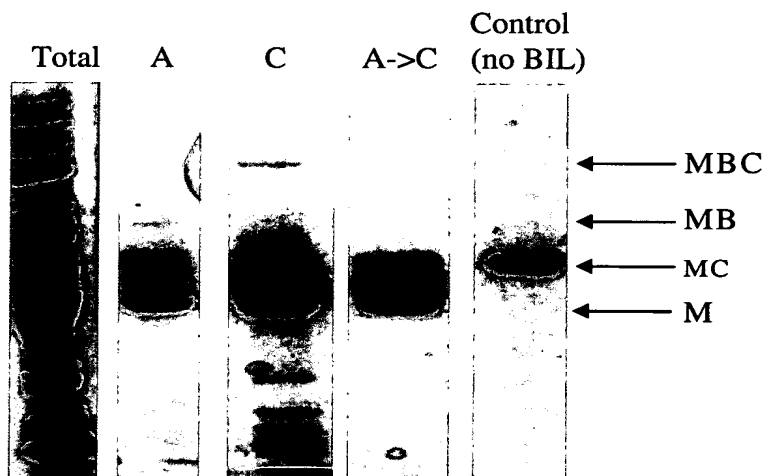


Fig. 12c



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